

## CLAIMS:

1. Apparatus for supplying electrical energy at high frequencies to HID-lamps, comprising:

at least a first high frequency voltage source adapted to generate a substantial sinusoidal voltage with a first frequency and a first amplitude;

5 at least a first piezoelectric transformer of which the resonance frequency is substantially equal to the first frequency and which is connected to said first voltage source, characterized by

- a number of secondary voltage sources which are each adapted to generate a substantial sinusoidal voltage with a frequency which is an odd harmonic of the first  
10 frequency and an amplitude which is an odd fraction of the first amplitude ; and  
- a number of piezoelectric transformers each of which being connected to one of the second voltage source.

2. Apparatus as claimed in claim 1, characterized in that the number of secondary  
15 voltage sources is equal to three.

3. Apparatus as claimed in claim 1 or 2, characterized in that the voltage sources are adapted to modulate their frequencies, wherein the relation between the frequencies of the first and the secondary voltage sources is maintained.  
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4. Apparatus as claimed in claim 3, characterized in that the frequencies are modulated within a range within which the piezoelectric transformers perform their function.

5. Apparatus as claimed in one of the preceding claims, characterized in that the  
25 frequency of all voltage sources is controlled through a single generator.

6. Apparatus as claimed in claim 3 or 4, characterized in that the apparatus comprises a transducer to detect oscillations in a lamp connected to the apparatus, and that

the frequency of the voltage generated by the voltage sources is modulated if the transducer detects modulations in the lamp.